Modem Communication Cards

The Modem Communication Cards are part of a family of communication interfaces that mount in a ROC300-Series Remote Operations Controller or a FloBoss™ 407 Flow Manager. The cards provide modem communications between a ROC or FloBoss and other devices.

Three types of modem cards are available:

- Radio modem cards for communications over a two-way radio.
- Leased-line modem cards for communications over a Public Switched telephone network (PSTN) leased line or over a privately owned line up to 20 miles in length.
- Dial-up modem cards for communications over a telephone network.

All types of modem cards have LED indicators for the various communication signals.

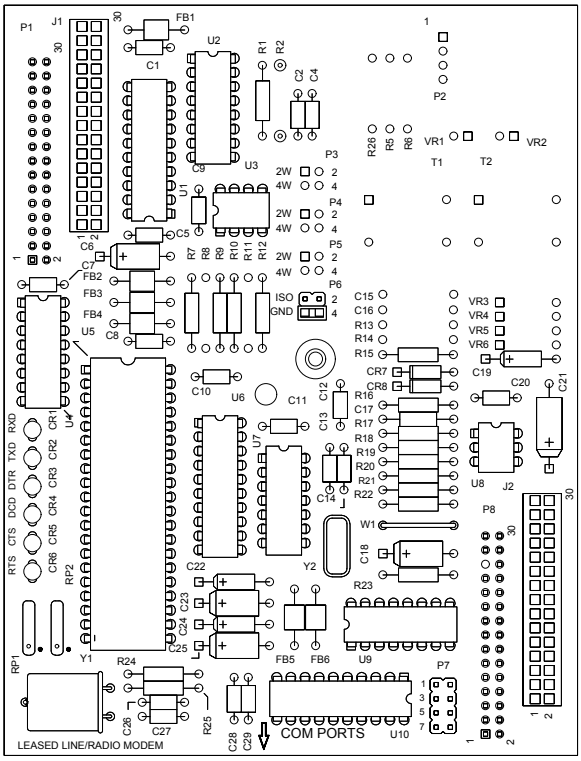
One communication card can be installed in a ROC306, ROC312, or FloBoss 407 unit. For a ROC306 or ROC312 unit, the communication card plugs into the main board, which electrically connects it to the COMM connector on the front of the ROC. For a FloBoss 407 unit, the card plugs into the termination board, which connects it to the COM2 terminal block.

Up to two modem or serial (see separate specification sheet) communication cards in any combination can be installed in a ROC364 unit. The first communications card plugs into the main board and the second card, if used, plugs “piggy-back” onto the first card. Each card connects electrically to either the COM1 or COM2 connector located on the front of the ROC364.

The dial-up and leased-line modems interface to a telephone network through a TELCO (RJ11) connector that is supplied with the modem card.

Radio Modem Card

The radio modem sends and receives full-duplex or half-duplex, asynchronous Frequency Shift Keyed (FSK) signals to the audio circuit of a two-way radio. A solid-state push-to-talk (PTT) switch is provided for keying the radio transmitter. An 8-pin connector on the modem card makes EIA-232 (RS-232) level signals available to an analyzer.



Radio Modem Communications Card

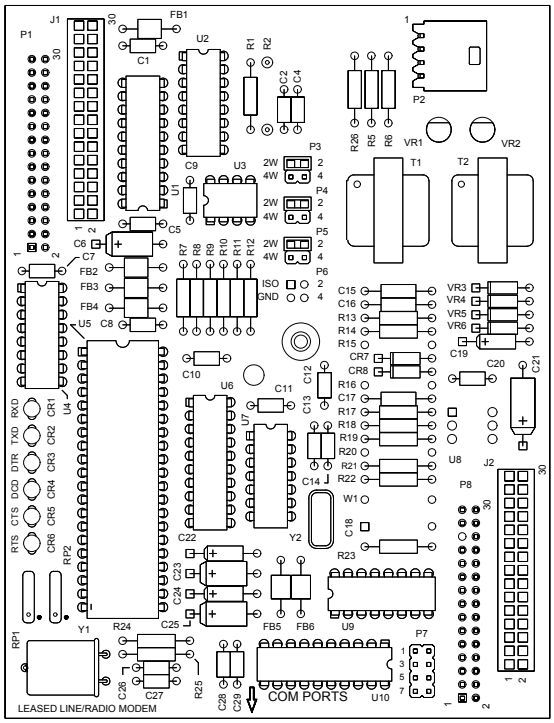
Leased-Line Modem Card

The leased-line modem (Bell 202T compatible) sends and receives signals over a 2-wire or 4-wire leased line, or over a single-user, four-wire private line. More than one ROC or FloBoss can be connected to the leased or private line in a multi-drop configuration. An 8-pin connector on the modem card makes EIA-232 (RS-232) level signals available to an analyzer.

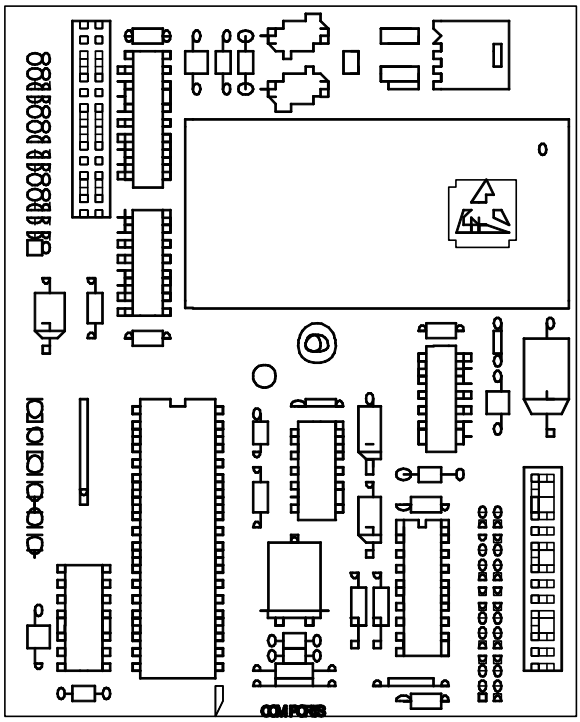
Dial-Up Modem Card

The dial-up modem (Bell 212 compatible) sends and receives signals over a 2-wire, full-duplex telephone network (PSTN). Both auto-dial and auto-answer features are accommodated. The modem is controlled using industry-standard AT command software. EIA-232 (RS-232) level signals (output only) are available at the COMM connector for an analyzer.

D301013X012



Leased-Line Modem Communications Card



Dial-Up Modem Communications Card

Radio Modem Specifications

OPERATION

Mode: Full or half-duplex, direct connection to radio.

Data Rate: Up to 1200 baud asynchronous (software selectable).

Parity: None, odd, or even (software selectable).

Format: Asynchronous, 7 or 8 bit (software selectable).

Modulation: Phase coherent, Frequency Shift Keyed (FSK).

Carrier Frequencies: Mark 1200 Hz ± 0.1%; Space 2200 Hz ± 0.1%.

Input Impedance: 20 KΩ, unbalanced.

Output Impedance: 600 Ω balanced.

RTS-to-Transmission Delay: Configurable in 10 millisecond increments (50 milliseconds for ROCs with ROCPAC).

Sensitivity: -35 dBm.

PTT Signal: Isolated, solid-state switch.

OPERATION (CONTINUED)

LED Indicators: TXD, RXD, DTR, DCD, CTS, and RTS.

POWER REQUIREMENTS

4.75 to 5.25 V dc, 0.11 W typical (supplied by ROC).

ENVIRONMENTAL

Operating Temperature: -40 to 75°C (-40 to 167°F).

Storage Temperature: -50 to 85°C (-58 to 185°F).

Operating Humidity: To 95% relative, non-condensing.

DIMENSIONS

25 mm by 103 mm by 135 mm (1 in. H by 4.05 in. W by 5.3 in. L).

WEIGHT

100 g (3.6 oz.) typical.

APPROVALS

Approved by CSA for hazardous locations Class I, Division 2, Groups A, B, C, and D.

Leased-Line Modem Specifications

OPERATION

Mode: Full or half-duplex on 2-wire or 4-wire private channel (compatible with Bell 202T).

Data Rate: Up to 1200 baud asynchronous (software selectable).

Parity: None, odd, or even (software selectable).

Format: Asynchronous, 7 or 8 bit (software selectable).

Modulation: Phase coherent, Frequency Shift Keyed (FSK).

Carrier Frequencies: Mark 1200 Hz ± 0.1%; Space 2200 Hz ± 0.1%.

Input Impedance: 600 Ω balanced transformer input.

Output Impedance: 600 Ω balanced transformer output.

RTS-to-Transmission Delay: Configurable in 10 millisecond increments.

Sensitivity: -35 dBm.

Maximum Output Level: 0 dBm nominal into 600 Ω.

OPERATION (CONTINUED)

LED Indicators: TXD, RXD, DTR, DCD, CTS, and RTS.

Surge Protection: Conforms to FCC part 68.

Certification: FCC Part 68 tested.

Connector: RJ11 type.

POWER REQUIREMENTS

4.75 to 5.25 V dc, 0.11 W typical (supplied by ROC).

ENVIRONMENTAL

Operating Temperature: -40 to 75°C (-40 to 167°F).

Storage Temperature: -50 to 85°C (-58 to 185°F).

Operating Humidity: To 95% relative, non-condensing.

DIMENSIONS

25 mm by 103 mm by 135 mm (1 in. H by 4.05 in. W by 5.3 in. L).

WEIGHT

135 g (4.7 oz.) typical.

APPROVALS

Approved by CSA for hazardous locations Class I, Division 2, Groups A, B, C, and D.

(Dial-up Modem Specifications on next page)

Dial-Up Modem Specifications

OPERATION

Mode: Full-duplex 2-wire for dial-up PSTN (Bell 212 compatible).

Data Rate: Up to 14.4K bps asynchronous (software selectable).

Parity: None, odd, or even (software selectable).

Format: 8, 9, 10, or 11 bits, including start, stop, and parity (software selectable).

Modulation: V.32 and V.32 bis, V.21 and 103, binary phase-coherent FSK, V.22 and 212A, and V.22 bis.

Transmit Amplitude: -1 dB typical.

Telephone Line Impedance: 600 Ω typical.

RTS-to-Transmission Delay: Configurable in 10 millisecond increments (50 milliseconds for ROCs with ROCPAC).

Receiver Sensitivity: Off-to-On threshold, -45 dBm. On-to-Off threshold, -48 dBm.

Maximum Output Level: 0 dBm nominal into 600 Ω.

LED Indicators: TXD, RXD, DTR, DSR, RI, and OH.

Surge Protection: Conforms to FCC part 68 and DOC.

Surge Isolation: 1000 V ac and 1500 Volt peak.

OPERATION (CONTINUED)

Certification: FCC Part 68 approved.

Connector: RJ11 type.

POWER REQUIREMENTS

4.5 to 5.5 V dc, 0.4 W typical (supplied by ROC).

ENVIRONMENTAL

Operating Temperature: -40 to 75°C (-40 to 167°F).

Storage Temperature: -50 to 85°C (-58 to 185°F).

Operating Humidity: To 95% relative, non-condensing.

DIMENSIONS

25 mm by 103 mm by 135 mm (1 in. H by 4.05 in. W by 5.3 in. L).

WEIGHT

130 g (4.6 oz.) typical.

FCC INFORMATION

Registration No.: DWE-25983-M5-E.
Ringer Equiv.: 1.0B

APPROVALS

Approved by CSA for hazardous locations Class I, Division 2, Groups A, B, C, and D.

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